



## 2916.0 - Census of Population and Housing - QuickStats, Community Profiles and DataPacks User Guide, Australia, 2016

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## Summary

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This user guide offers an overview of the Census data product suite and ways in which the ABS protects the confidentiality of data.

#### Accessing and using Census data

Census data is made available through different products, each of which have unique key features, formats and involve varying levels of analysis or interpretation. Each product is available on the ABS website.

Check out Which Census Product is Best for you to help you choose the data product that best meets your information needs.

As a starting point, go to QuickStats or Community Profiles to complete a search using the search tool within the page.

Advanced Search has multiple ways to find specific geographic areas. Use Advanced Search if the QuickStats or Community Profiles search tool doesn't find what you are looking for.

DataPacks provides the next step up in data analysis. It is designed for users who have their own database or mapping systems.

TableBuilder is a product that enables users to build and customise tables to their own specifications. If you need help, the TableBuilder User Guide provides information about:

- available data in TableBuilder
- how to register
- accessing and using TableBuilder

#### Tutorials

Tutorials are available in the form of online videos (with accompanying transcripts) and demonstrate how to use different features of QuickStats, Community Profiles and DataPacks, and run from 1 to 5 minutes. The tutorials can be found in this user guide or on the QuickStats, Community Profiles or DataPacks pages on the ABS website.

#### Confidentiality and protecting your data

The ABS highly values confidentiality and protecting your data. This user guide will help you understand what the ABS does to protect your information, explains perturbation (the technique used to adjust counts), and provides guidance on how to interpret the data.

#### More information

Can't find what you are looking for? Try our Help pages.

## QuickStats

### QuickStats

QuickStats provides quick summary information on key demographic groups and topics. For a selected area, you can easily access information about people, family and dwellings, and compare it to state and national data.

Three different QuickStats search tools are available:

- Search QuickStats
- Search Aboriginal and/or Torres Strait Islander Peoples QuickStats
- Search Country of Birth QuickStats.

Access QuickStats search tools

Each of these search tools require you to select a Census year (2016 being the most recent data available) and enter a location

into the search field. A predictive list of search items begins to display after typing the first three characters and will be continually refined as subsequent letters are typed.

After a valid location has been selected, clicking the go button will open the QuickStats page.

### Search QuickStats

To use the first search tool, Search QuickStats, select the Census year you want data for (from the dropdown menu) and enter a location. Data is available for the 2016 Census year through to the 2001 Census year.

In some cases, you will be faced with different options for the location you've entered. For more information about selecting geography structures for your QuickStats search, see Census geography basics.

**Note:** The Search QuickStats tool also includes a link to Advanced search, which allows you to search for a location or geographical area of interest using additional tools including text search, address search and search by map.

For an overview of the geographic structures with data available, see QuickStats geography table.

### Search Aboriginal and/or Torres Strait Islander Peoples QuickStats

With the release of 2016 Census data, a new QuickStats search was introduced - Search Aboriginal and/or Torres Strait Islander Peoples QuickStats. Data on Aboriginal and/or Torres Strait Islander peoples and households is available for the 2016 Census year, for main statistical area geographies and Local Government Areas.

**Note:** If wanting to complete a geography search on Indigenous Structures: Indigenous Regions (IREG), Indigenous Areas (IARE), or Indigenous Locations (ILOC), use Search QuickStats instead.

For more detail on which geographies are available, view the QuickStats geography table.

### Search Country of Birth QuickStats

The third search tool, Search Country of Birth QuickStats, offers access to summary population characteristics based on a persons stated country of birth. Data is available for 2016 and 2011 Census years at the national, State/Territory and Greater Capital City Statistical Area (including Rest of State region) levels.

Data is available for the top 53 countries of birth for both Census years. Additional countries will be progressively made available to see 2016 data available for the top 107 countries of birth.

This search tool behaves slightly differently to the others – once you have selected the Census year, you will need to enter the country of birth of interest. Selecting 'go' then launches the QuickStat for persons who reported being born in the country and are living in Australia.

From here, you can drill down to State/Territory and Greater Capital Statistical Area regions.

While certain countries are available for selection in 2016, some may be invalid when combined with certain areas. Such combinations will be greyed-out and will not be selectable.

### QuickStats Country of birth concepts

The 'top' countries of birth are determined by counts of persons who reported being born in that country of birth, at the national level. Families and households in QuickStats Country of Birth are determined by the responses of the Reference Person (Person 1 on the Census form) and/or their spouse or partner. Migrant dwellings relate to occupied private dwellings that include at least one person who was born overseas. This means that the migrant dwelling count captures all dwellings where any individual within that dwelling was born overseas, not just dwellings where a parent was born in a particular country.

### Understanding QuickStats Country of Birth tables

#### People tables

Born in 'selected country of birth'	All overseas born	Australian born	Total
This total includes the people whose stated country of birth matches the country of birth selected.	This is the total for all people who stated an overseas country of birth and includes the people born in the 'selected country of birth' column.	This is the total for people who stated that their country of birth was Australia.	This is the total of 'All overseas born', plus 'Australian born' plus those people who did not state a country of birth.

#### Family tables

Born in 'selected country of birth'	All overseas born	Australian born	Total
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The family is included where the Reference Person <b>and/or</b> their spouse or partner stated a country of birth matching the country of birth selected.	This is the total for families where the Reference Person <b>and/or</b> their spouse or partner stated an overseas country of birth. It includes the 'selected country of birth' total.	An Australian born family is where both the Reference Person <b>and/or</b> their spouse or partner stated their country of birth was Australia.	This is the total of 'All overseas born', plus 'Australian born' as well as families where <b>both</b> the Reference Person and their spouse or partner did <b>not</b> state a country of birth.
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### Dwelling tables

Born in 'selected country of birth'	All overseas born	Australian born	Total
The dwelling or household is included where at least one person in the dwelling stated they were born in the country of birth matching the country of birth selected.	The dwelling or household is included where at least one person in the dwelling stated an overseas country of birth (including the 'selected country of birth' total). It excludes dwellings where none of the occupants stated their country of birth.	The dwelling or household is included where at least one person in the dwelling stated they were born in Australia. It excludes dwellings where none of the occupants stated their country of birth.	This is the total of all dwellings (including those where nobody in the dwelling stated a country of birth).

### Protecting your data

Small random adjustments have been made to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from table totals. To understand why the ABS has taken this approach, read Confidentiality and protecting your data.

### Tutorials

QuickStats: <http://youtu.be/xXQOZEvF1oE>

## Community Profiles

### Community Profiles

Community Profiles paint a more comprehensive statistical picture of an area. These offer up Census data about people, families and dwellings in the form of an Excel workbook, and cover most topics on the Census form.

There is one search tool that offers access to available data for an area, in the form of up to four different types of profiles:

1. General Community Profile
2. Aboriginal and Torres Strait Islander Peoples Profile
3. Time Series Profile
4. Working Population Profile

Access Community Profiles search

For further information about the three different profiles, see Types of profiles.

**Note:** Not all Community Profiles are available for all areas. For an overview of the geographic structures with data available, see the Community Profiles geography table.

### Search Community Profiles

To use the Community Profile search tool, select the Census year you want data for. Use the drop down menu to select data for the following years: 2016, 2011, 2006, 2001 or 1996.

Typing a location in the search field will result in a list of the available geography areas that have Community Profiles. A predictive list of search items will display after typing the first three characters and will be continually refined as subsequent letters are typed.

In some cases, you will be faced with different options for the location you've entered. For more information about selecting geography structures for your Community Profiles search, see Census geography basics.

After a valid location / geography structure combination has been selected, click the go button. A Community Profile download

page will appear with the available profiles for that area. Clicking on one of the profile links on the download page will download a zip file containing the profile Excel workbook.

**Note:** Underneath the Community Profile search tool is a link to Advanced search, where you can search for a location or geography structure using additional tools such as text search, address search and search by map.

## Using Community Profiles

A Community Profile is made up of a number of components:

1. Cover - The cover sheet provides details of the area that the data in the workbook relates to as well as the type of profile and catalogue number.
2. Contents - The contents page provides links to other Census data products and services as well as information and links to helpful resources.
3. List of Tables - Lists the profile tables with direct links to each table.
4. List of Topics - Lists the profile tables by topic with direct links to each table.
5. Tables - These are the profile table worksheets.

Each profile contains different tables of data spanning a range of topics.

Small random adjustments have been made to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from table totals. To understand why the ABS has taken this approach, read Confidentiality and protecting your data.

## Tutorials

Community Profiles: <http://youtu.be/rFTKEb75SaE>

# DataPacks

## DataPacks

### What are DataPacks?

Census DataPacks contain comprehensive data about people, families and dwellings. They contain data for all Census geographies from Australia down to Statistical Area Level 1, with associated Geographic Information System digital boundaries.

DataPacks are designed for clients who have existing databases or analysis systems, for example Geographic Information Systems or other mapping and tabulation systems.

### What DataPacks Profiles are available?

There is a total of five DataPacks, based on Community Profiles with one additional profile:

- General Community
- Aboriginal and Torres Strait Islander People
- Time Series
- Place of Enumeration (additional)
- Working Population.

^ Separate Estimated Resident Population DataPacks will be produced once 2016 Estimated Resident Population data becomes available.

### How do I download a DataPack?

To download a DataPack, click the 'Open DataPacks' button located at the top of the DataPacks page.

**Open DataPacks**

This will lead you to the selection page for DataPacks. There should be multiple drop downs as well as a table at the bottom of the page.

# Census DataPacks

## Step 1: Select Census year

2016 Census Datapacks

## Step 2: Select DataPacks type

General Community Profile

## Step 3: Select Geography

All geographies

Need help with DataPacks? Download the help file : [Zip File](#)

Geographies	Aust	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	OT	Geography boundary: ESRI Shapefile	Geography boundary: Map Interchange
All geographies												

- Step 1 will allow you to select the Census year which your data will be drawn from. By default, this will be the year 2016.
- Step 2 will allow you to select the DataPacks type.
- Step 3 will allow you to select the Geography type. The available options will depend on which profile is chosen in the second step.
- If you selected the year 2011, you will receive an extra step (step 4); the choice of descriptor type for your DataPack. This step has been removed from the 2016 year choice as new DataPacks will be supplied with short column descriptor labels, and metadata will include supplementary details for sequential and long descriptors.
- Step 5 - If All geographies options are selected, individual boundary files need to be downloaded from the individual region level.

Once you've made your selections, the grid of available download links will update below.

To download a specific DataPack, simply click on a blue arrow that corresponds to the state or territory that you'd like data for. Blue means that the DataPack is available now, while dark grey arrows represent later releases.

The Download grid also includes digital boundary files specific to each of the available geographies located in the last two columns. These are particularly relevant and useful when working with mapping software.

Note: all DataPack downloads have been compressed and will require decompression software (such as WinZip) in order to open or view the files.

## What do I need to use DataPacks?

You will need the following software to use DataPacks:

- Software for compressed zip files
- Text Editor for CSV Files
- Spreadsheet application for the Metadata files
- Geographic Information System application.

Metadata files contain the information you need to match the data with the Community Profile template, this includes information about sequential numbers and labels, the digital boundaries, the table descriptors (long, short and sequential) and the population that is being counted.

## What files are contained in a DataPack?

In each DataPack there are three different file types; 'Text Documents', 'Microsoft Excel Worksheets', and 'Microsoft Excel Comma Separated Values Files' (CSV).

- The text documents provide help on specific topics and functions for DataPacks.
- Each DataPack will include three Excel Worksheets; A Census Geography description pack, a Sequential Template containing all categories, and a Excel worksheet with a list of all the tables and cell descriptors.

- Within a DataPack, each table type will have its own CSV file which will contain raw data ready for use.

Both 'Geography boundary: ESRI Shapefile' DataPacks and 'Geography boundary: Map Interchange' DataPacks will contain different file types to the regional DataPacks. This will allow you to easily extract the data into your mapping software of choice.

### What are the different types of descriptors?

Should you require data using long or sequential descriptors you can replace headers within the .CSV file using descriptor information available in the Metadata contained in the zip file.

For example the Metadata\_2016\_GCP\_DataPack contains a listing of all sequential, short and long descriptor information.

The example below, using Local Government Area (LGA) geography, shows the short descriptor.

Region_id	Tot_P_M	Tot_P_F	Tot_P_P
LGA10050	0	0	0
LGA10110	0	0	0
LGA10150	0	0	0

### How do I open boundary files?

To open the 2016 DataPacks boundary files you need to use MapInfo version 7.8 or above.

When creating .tab files in MapInfo for SA1, SA2, SA3, SA4, STE or SUA, the 'region ID' in the CSV file has to be changed from 'integer' or 'small integer' to 'character', before merging with the corresponding boundary file.

This is not necessary with other geographies. The '.tab' files for other geographies can be opened and merged with the data file in the usual way.

To do this:

(In this example we are using MapInfo Professional 10.5 and the SA4 geography for South Australia)

1. Open MapInfo.
2. Cancel \*Quick Start\*.
3. Select \*File\*.
4. Select \*Open\*.
5. When the \*Open\* tile appears:  
\*\*\*\* In the field \*Files of type\* select \*Comma delimited CSV\*  
\*\*\*\* Select your CSV file.  
\*\*\*\* Tick the \*Create copy in MapInfo format for read/write\* check box.  
\*\*\*\* Press the \*Open\* button. The \*Comma Delimited CSV Information\* dialog box appears.
6. Tick the \*Use First Line for Column Titles\* box. Leave other settings as is. Then press the \*OK\* button.
7. The file will open. Select, \*Table\* -> \*Maintenance\* -> \*Table Structure\*.
8. Change \*Small Integer\* or \*Integer\* to \*Character\* for the region\_id field.
9. The change to \*Character\* will bring up the \*Width\* dialog box.
10. The \*width\* is the number of characters in the geography code. In this case the geography is SA4. SA4s have three digit codes so enter 3.
11. Press OK.

\*\*\*\*Note: Some geographies will have codes of more than three numerals and so will have commas. When counting the number of characters for the 'width' field, exclude the commas from the count.\*

12. A box will appear saying: \*One or more fields have been shortened or removed. The resulting loss of data cannot be undone.\*

13. Press OK button and you have finished.

### How do I convert region ID from numeric to text fields?

ESRI ArcGIS Technical Notes

When working with data files for SA1, SA2, SA3, SA4, STE or SUA, the \*\*region ID\*\* in the CSV file has to be changed from a numeric to a text type field, before any merger with the corresponding boundary file can occur. \*Note that this is not necessary with other geographies. The '.tab' files for other geographies can be opened and merged with the data file in the usual way.\*

To do this: (In this example we are using ArcMap 10.3.1)

1. Open \*ArcGIS\* -> \*ArcMap\*.
2. Cancel \*ArcMap Getting started\*.
3. Select \*Windows\* -> \*Catalogue\*
4. In the \*Catalogue\* window, right click on \*Folder Connections\* -> \*Connect Folder\*
5. Navigate to the folder location of the data file(s) to connect to folder for access in ArcMap.
6. Select the data file(s) you would like to convert the region ID field of.
7. Drag and drop the data file into your workspace (middle panel where maps are displayed).

8. Your data file should appear within the \*Layers\* level in your \*Table of Contents\* window.
9. Right click on csv file in the Table of contents window, select \*Data\* -> \*Export\*.
10. Click on the \*browse\* folder icon.
11. Navigate to your \*Folder Connections\* and select a folder to create a new Geodatabase, to store exported csv files (if you do not have one already).
- \*\*\*a. To do this, select the highlighted icon to create a database.
- \*\*\*b. Give a new name to your database (for example \*Validation\_shape.gdb\*).
12. Double click on your new geodatabase created.
13. Name your exported file (for example \*\*\*T01\_AUST\_STE\*\*\* – note name has a 13 character limit).
14. Select \*Save\*.
15. The following dialog box should appear – select \*OK\* and note the output destination database and file name.
16. After the file is exported, a dialog box will appear with \*Do you want to add the new table to the current map\*. Select \*Yes\*.
17. In \*Table of Contents\* panel, open your new file within the database you created (for example \*\*\*T01\_AUST\_STE\*\*\*).
18. Right click on file and select \*Open\*.
19. In the table that opens, select the drop down menu and \*Add Field\*.
20. Assign a name to new field (e.g. \*region\_id\_txt\*), select type as \*Text\*, then select \*OK\*.
21. In the table, scroll to the last column to locate new field.
22. Right click on \*region\_id\_txt\*, then select \*field calculator\*.
23. Double click on \*region\_id\* so that your new text field is equal to the contents of \*region\_id\*.
24. Select \*OK\*

You can now merge the boundary file (for example \*state\_code\* from the \*STE\* boundary) with the appropriate data file (for instance \*T01\_AUST\_STE\*) using the new text field \*region\_id\_txt\*.

### What geographies are available?

Details on which geographies are available can be found in the DataPacks geography table.

### How do I compare Census data over time?

The Time Series Profile DataPack has data from the 2006, 2011 and 2016 Censuses. There is data for persons, families and dwellings.


### Has the data been made confidential?

Yes. For further information view Confidentiality and protecting your data.

### Documents for further reading

 Download PDF - Formats

 Download PDF - Creative Commons Licensing

 Download PDF - About Data Packs

 Download PDF - 2016 POA

## Advanced Search

### Advanced Search

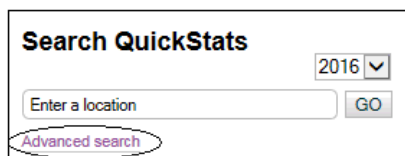
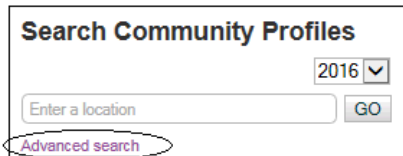
#### What is Advanced Search for?

Advanced Search is a helpful tool that allows you to easily find a specific geography area within Australia. Once an area is selected, you will be able to move to the relevant QuickStats or Community Profiles page.

#### How do I find Advanced Search?

The Advanced Search page can be accessed through multiple pathways. The quickest way is straight from the main Census page. The Advanced Search by Geography link is located under Data by Geography.

Advanced Search can also be accessed through the QuickStats page and the Community Profiles page. The Search QuickStats and Search Community Profiles tools have links underneath to Advanced Search, as displayed below.

#### How do I change the Census year?

When using Advanced Search, you can change the Census year you want data for. Use the drop down menu to select data for the following years: 2016, 2011, 2006, 2001 as shown below.



### How do I find a specific area?

Advanced Search has multiple ways to find specific geographic areas.

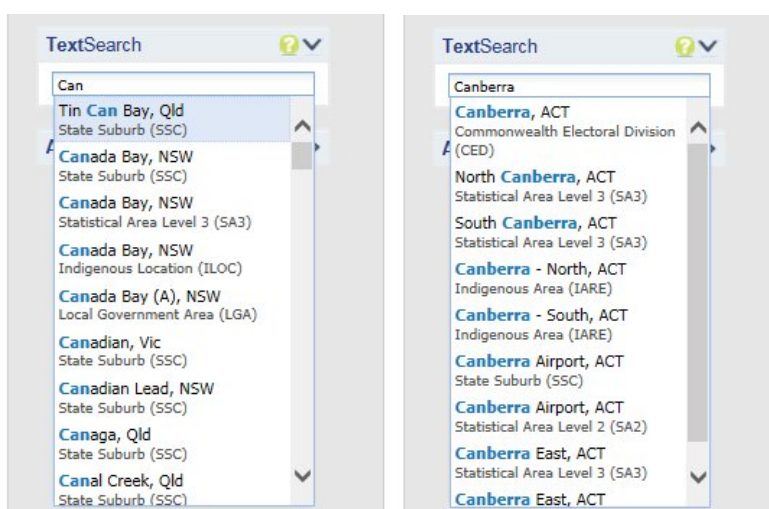
The **GeographiesSearch** (opened by default) allows you to search for a geography via a hierarchical tree. The hierarchy is divided into different categories to make searching easier. To search for a geography simply expand a folder using the arrow on the left which will load and display the geographies available under that category. You can then search for further geographies under each geography by clicking the arrow again.



### Searching via TextSearch

The **TextSearch** allows you to search for a geography such as a state, suburb or city. In the text box, typing a location in the search field, will result in a list of the geographical areas available in QuickStats and Community Profiles. A predictive list of search items begins to display after typing the first three characters and will be continually refined as subsequent letters are typed.

After a location has been chosen, your selected geography will display on the map.



### Searching via AddressSearch

The **AddressSearch** allows you to search for a location within Australia and lists all the geographies available in that location such as state, suburb or city. To search a location, enter the address details then press the GO button. This will list the available geographies in the results box. Click on the row suitable to display the geography on the map.

AddressSearch

Results

AddressSearch

Results

8100207

Statistical Areas Level 1(SA1)

Belconnen

State Suburbs(SSC)

2617

Postal Areas(POA)

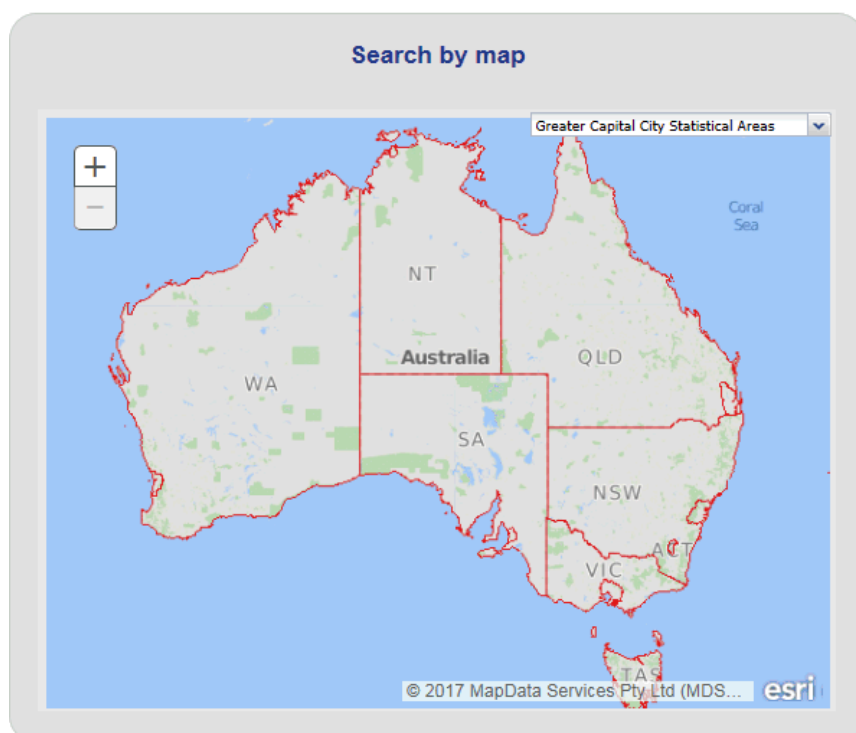
Belconnen

Indigenous Locations(ILOC)

### Searching via the map

You can also search using the map. You can change the boundary type by clicking the down arrow located at the top right corner of the map. By default, the map will start with Greater Capital City Statistical Areas displayed. To zoom in or out you can use the + and - symbols in the top left corner of the map. Alternatively you can use the scroll wheel on your mouse. By holding the left button of your mouse and moving, you can pan across the map when zoomed in.

Note: Maps for the year 2001 may only work intermittently if you are using Internet Explorer browser (version 9 and earlier).



### How do I access data from Advanced Search?

Once you have selected a geographic area using one of the methods shown above, two links will appear at the bottom of the page under the heading Selected region. The first link will allow you to view the selected area in QuickStats while the second link will allow you to view the area in Community Profiles.

The links will be updated every time you select a new geographic area.

Selected region

[View QuickStats for Rest of NSW](#)
[View Community Profile for Rest of NSW](#)

\*Advanced Search does not work on mobile devices.

# Confidentiality and protecting your data

## Confidentiality and protecting your data

The Australian Bureau of Statistics (ABS) is committed to protecting the personal information it collects. Not only does the ABS have strong legislative protections that safeguard the privacy of an individual's information, we have a proud 100 year history of maintaining community trust in the way it collects, uses, discloses and stores your personal information collected in the Census.

This page discusses the technique the ABS has developed to maintain the confidentiality of the data collected in the Census. The Privacy, Confidentiality and Security page addresses the broader approaches the ABS takes to maintain respondent anonymity, covering legislative protections and security controls for your data. The Census Privacy Policy page summarises how the ABS collects and protects name and address information from the Census.

### What does Confidentiality mean?

Confidentiality is about ensuring the personal information the ABS has collected is kept secret or private. The ABS uses a number of processes and methods to ensure the information released is consistent with our privacy obligations. The ABS never has, and never will release identifiable Census data. Key measures to safeguard information include strong encryption of data, restricted access on a need-to-know basis and monitoring of staff data access, including regular audits.

In accordance with the *Census and Statistics Act 1905* all Census data, including QuickStats, Community Profiles, DataPacks and TableBuilder, is subjected to a confidentiality process called perturbation before release. This includes the information found in Reflecting Australia and all publications that use Census data. This confidentiality process is undertaken to avoid releasing information that may allow for the identification of particular individuals, families, households, or businesses.

### Perturbation

The ABS has developed a technique to adjust counts to maintain confidentiality of information. This technique, known as perturbation, is applied to all counts, including totals, to prevent any identifiable data about individuals being released. These adjustments result in small introduced random errors and can mean that the rows and columns of a table do not sum to the displayed totals. However, the confidentiality technique is applied in a controlled manner that ensures the information value of the table as a whole is not significantly affected. Further information on the methodology of perturbation can be found in Confidentialising Tabular Output to Protect Against Differencing paper.

Perturbation can be a source of frustration to users because rows and columns do not add to totals, but this technique is implemented to protect personal information. Most tables reporting basic statistics will not show significant discrepancies due to perturbation. However, as the degree of complexity of a table increases, the need for perturbation remains and it will continue to be used in the release of 2016 Census data.

For 2006 and 2011 Census data, an additional 'additivity step' was applied that made further small adjustments to each table to ensure rows and columns added to totals. This extra adjustment meant that comparisons between tables which contained similar data items had minor discrepancies. In addition, as the tables at different geographic levels are adjusted independently, tables at the higher geographic level may not be equal to the sum of the tables for the component geographic units. Because of these inconsistencies, for 2016 Census data this additivity step has been removed. For consistency and interpretability, the 2006 and 2011 data that appears in the following 2016 products have been re-calculated without additivity - Time Series Community Profile, DataPacks and the time series comparisons in QuickStats. ABS survey data outputs no longer implement this additivity step.

### Interpreting the data

Perturbation has very little impact on Census data.

This is because it is applied consistently to the data so the same information will always have the same adjustment applied, and it is very small in magnitude. For example, a count of 15 - 24 year old males in New South Wales will have the same perturbation applied regardless of how a table with this data is constructed. However, the count in QuickStats may in rare cases differ marginally from the count in Community Profiles and DataPacks because the data in these products are recoded for presentation purposes.

The best number to use will always be the count that most directly corresponds to the information you require. It is not recommended that you derive information by summing across a row or down a column, as this increases the instances where perturbation may impact on the output. For instance, if you are interested in the count of 15 - 24 year old males in New South Wales, the total count will be the best figure to use, not the sum in individual years of males in New South Wales.

When calculating proportions, percentages or ratios from cross-classified or small area tables, the random adjustments introduced by perturbation can be ignored except when very small counts are involved, in which case the impact on percentages and ratios can be relatively significant. No reliance should be placed on small counts (that is, counts of 20 or less). Aside from the effects of the confidentiality process, Census non-response and possible respondent and processing errors have greatest relative impact on these small counts.

With the removal of the additivity step for 2016 Census data, comparisons over time should be made using the 2016 time series products where possible. Comparisons between 2011 QuickStats and 2016 QuickStats will compare one product where additivity has been applied and another where it hasn't. Whilst this will not have a significant impact on the differences observed over time, the most correct approach is to use the 2016 time series products. The 2011 Census data products will not be re-released with the additivity step removed.

Users should exercise care when interpreting the medians that have been calculated from TableBuilder for Census data. The removal of additivity has affected median figures for small areas and small sub-populations. The ABS has manually re-calculated the medians displayed in QuickStats, Community Profiles and DataPacks using the same methodology as 2006 and 2011 Census output, so comparisons over time can be reliably made. This methodology could not be automatically implemented in output systems, hence there may be slight differences between the medians extracted in TableBuilder and those in the other data products. As a general rule, users should ensure the underlying population a median is calculated from has a count of at least 100, though this needs to be higher for Census topics with a detailed classification like age in single years, rent and mortgage repayments in single dollars.

## Census Data products and the effect of perturbation on counts

### The effects of perturbation on counts in Census data products

Making data accessible to people with different levels of experience in Census concepts and statistical knowledge is a key principle guiding our efforts in the design of Census data products. The ABS aims to provide users with access to information relevant to their needs and in suitable formats, so that Census data can be easily used to inform decision-making in many different contexts.

It's important when accessing and interpreting Census data from our products that the information is used appropriately, as there are some common pitfalls that can arise when working with the data after it has been extracted. In particular, the effects of perturbation on the data need to be understood.

### The process of perturbation

Perturbation includes the suppression of small counts so individual information cannot be determined. This is why you'll never see counts of 1 or 2 in Census output. As perturbation is applied independent of the size of a count, any individual count or total in Census data products will be no more than a very small number away from the unperturbed value.

It is because of this process of perturbation to protect individual information that the tables in Census data products are not additive. The ABS has not changed the size or characteristics of these small adjustments – they remain the same as for the 2011 Census.

Confidentiality and protecting your data explains the perturbation process and how it protects individual respondent information.

### Getting the most out of Census data

To best use Census data, the ABS recommends using Census data products to source the information that you need, rather than deriving data or aggregating counts *after* extracting information from Census data products. Deriving new statistics after information has been extracted from ABS data products involves summing over many instances of perturbation, meaning the derived statistics could differ significantly from the original counts.

Any derivation of new statistics (such as totals, recodes, data manipulation or custom geographic structures) should be undertaken within TableBuilder, so perturbation is applied only once to the output.

### Loading customised variable groups or geographic structures to TableBuilder

The following instructions describe how a custom geographic structure or data recode can be loaded to TableBuilder to ensure perturbation is only applied once to the data. Before following the instructions below, please see creating and managing custom recodes in TableBuilder.

1. Create a custom recode in the custom data tab of TableBuilder, specific to the variable grouping required.
2. Download the file and save it in a text editing program. Do not convert to DOS format.
3. Close and reopen the file in a spreadsheet program like MS Excel and update the group name column to reflect the custom recode groups. Note: when the changes are uploaded the system will automatically create all the custom recode groups as individual recodes.
4. After making the changes, sort the spreadsheet file by group name and values.
5. Save the file in your spreadsheet program as a .csv
6. Upload the .csv file into Census TableBuilder.

## About this Release

The QuickStats, Community Profiles and DataPacks User Guide has been created to support those who need help when using any or all of these products.

Information is provided on a wide range of features, including; navigating, creating, searching and saving.

This user guide will be updated as required to keep users up to date with the latest features of the system.

## History of Changes

**This document was added or updated on 19/07/2017.**

**23/10/2017-** Content updates to Summary, QuickStats and Community Profiles pages. Addition of new page 'Census data products and the effects of perturbation on counts'.

**19/07/2017-** Added PDF's and more information for further reading.  
Please note that no data has been changed.

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